

*Wilbur D. May Arboretum & Botanical Garden*

# **WILBUR'S EXPLORER GUIDE**



## **ACTIVITIES FOR FIRST GRADE**

# *Table of Contents*

<i>A Note from a Horticulturist</i>	<i>3</i>
<i>Map of Wilbur D. May Arboretum</i>	<i>4</i>
<i>Who was Wilbur D. May?</i>	<i>5</i>
<i>What is an Arboretum?</i>	<i>6</i>
<i>Suggestions for Families</i>	<i>7</i>
<i>Suggestions for Teachers</i>	<i>8</i>
<i>First Grade</i>	<i>9</i>
<i>Copying Nature</i>	<i>10-12</i>
<i>Young &amp; Old</i>	<i>13-16</i>
<i>Next Generation Science Standards</i>	<i>17</i>
<i>Acknowledgements</i>	<i>18</i>

## *A Note from a Horticulturist*

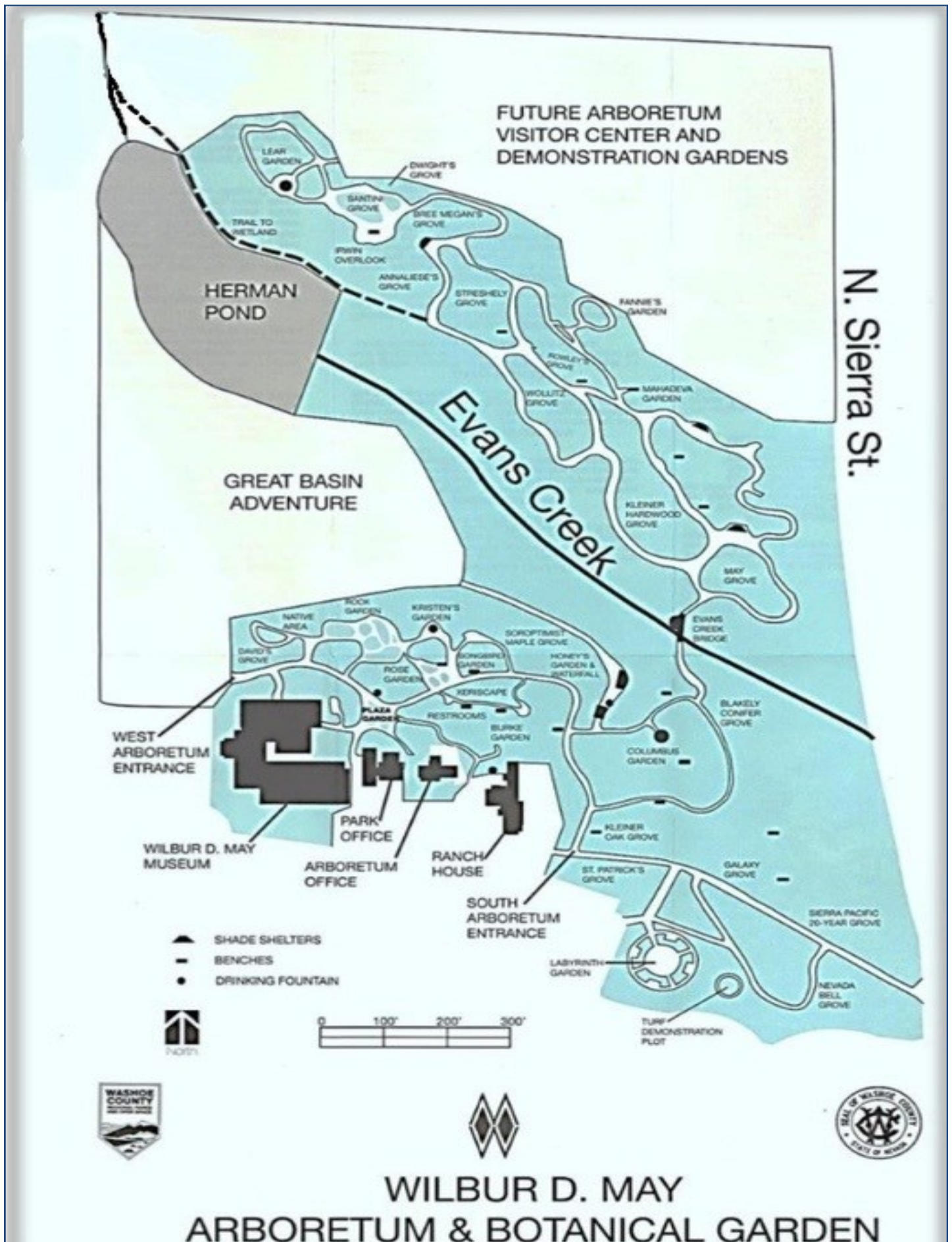
*“The May Arboretum like many public gardens are an expression of the local cultural heritage and social norm. The May Arboretum is multifaceted and serves our community of all ages throughout the season. It is an outdoor environment to teach children and adults about our natural world. It is also a place for solace, reflection and peace. It provides the beleaguered urbanite an environment to surrender their busy schedule under an oak or willow tree in the wetlands or any garden or grove. Walking through the gardens rejuvenates the soul and offers a time and place to have a transcendent moment, unlike a busy parks or trails. The May Arboretum provides all of this and many more intangibles, and what is so unique about it, it is easily accessible.”*

*Working here at the Arboretum is a gift and an honor because not every town has one. It is a pleasure working here because the gardens and groves were built with donated funds and by passionate people. I enjoy coming to work to experience and feel the dynamics of the seasons. I appreciate the diversity of my horticulture vocation; from the scientific aspect of keeping accurate botanical plants records and maps, learning about new plant varieties and botanical knowledge, managing a greenhouse, writing horticulture articles, planting and designing new gardens, educating and teaching the public, meeting with donors and most of all provide direction to this distinctive facility. I enjoy working with volunteers and the flexibility to escape into gardens for a walk or work with staff. It is the most rewarding job I have had in my 33 year horticulture career. But what is most gratifying are the frequent public comments I receive, e.g., “this is such a beautiful place, what a treasure and jewel it is”.*

*-Bill Carlos, Horticulturist*

*Wilbur D. May Arboretum & Botanical Garden*

*2017*



## Who was Wilbur D. May?

Wilbur D. May was an explorer! He loved to travel to new places and learn about the plants, animals, and people. Wilbur visited far off regions like Africa, South America, and Asia. He often met with the local people and traded for artifacts.



Wilbur made over 40 trips around the world! He learned how to fly, became an artist, and even wrote a song about pizza! In 1936, Wilbur moved to Reno, Nevada where he bred horses and cattle. Wilbur loved education and sharing with the community. Toward the end of his life, his family worked to create a museum to display Wilbur's findings. They began working with Ed Kleiner to create an Arboretum & Botanical Garden too. In 1986 the Wilbur D. May Arboretum & Botanical Garden opened to the public.





# What is an Arboretum?

Like many people you may be wondering, what is an Arboretum? Similar to a Botanical Garden, an Arboretum is a collection of plants.

However, Arboretums are different because the collection is trees.



Think of an Arboretum as a tree zoo!



Arboretums are created for scientific research, education, and a place to explore.

## Who takes Care of the Wilbur D. May Arboretum?

The Wilbur D. May Arboretum is cared for by dedicated volunteers, maintenance workers, and horticulturists. A horticulturist is someone who takes care of plants and makes sure they grow. This team works very hard together to make sure the trees and plants are doing their best!

## Time to put on your backpack!

Now that you know about Wilbur D. May and what an Arboretum is, grab your backpack and explore! The rest of this guide includes activities for grades kindergarten through fifth. Find your grade, challenge yourself, and discover the adventure that is awaiting you at the Wilbur D. May Arboretum and Botanical Garden!



## Suggestions for Families

There are lots of different options in the backpack for exploration.

- You can create your own Arboretum adventure by using the bird guide, tree guide, magnifying glass, and tape measure while exploring the gardens.
- Use the tape measure to measure tree trunks, and compare to your height!
- Follow the activities in this guide that are appropriate for your child's age.
- Reading the Introduction to each activity will give background information and set you and your explorer up for success!
- All the activities can be modified to be more difficult or less difficult.
- Take your time when walking through the Arboretum and keep low voices to increase your chances of seeing wildlife.
- If you have different aged children, suggest the older children help the younger ones with their activities.
- Ask open ended questions such as:

What do you see?

What do you feel?

What does it remind you of?

What do you wonder?

## Suggestions for Teachers

Wilbur's Explorer Pack is an opportunity to immerse students in the outdoor classroom under your direction. Each pack has the supplies needed for an enriching field trip such as a bird guide, tree guide, measuring tape, magnifying glass, along with the curriculum in this guide. All of the following activities have been designed around Next Generation Science Standards . The standards corresponding to each activity can be found on page 17. However, you don't have to follow this guide.

When deciding on outdoor classroom activities, be inspired. Give guidelines, and follow the curiosity and wonder of students. Asking lots of open ended questions can encourage discussion and exploration. With diverse gardens, ecosystems, and accessibility, the Wilbur D. May Arboretum is a beacon for education of all ages.





# **FIRST GRADE**

**-COPYING NATURE**

**-YOUNG & OLD**



## Copying Nature

**Suggested Gardens:** Burke Garden, Rose Garden, Native Area, Rock Garden, Songbird Garden

**Vocabulary:** arboretum, appearance, behavior, protection, attract, trait

**Introduction:** All living things look different from each other, but they also behave differently from each other. All of these differences have a specific purpose. Animals' looks can help to protect them, attract a mate, or help them to survive. Think about yourself. You have hair to keep you warm, eyes and ears to watch and listen for danger, thumbs to help you hold things, and a voice to let others know your thoughts. Today, you will search the Arboretum to see how other plants and animals' appearance helps them to survive.

### **Activity: Squirrel Proofing your Backpack!**

1. Take a look at the different animals and plants here at the Arboretum on the "Copying Nature: Scavenger Hunt"
2. Discuss how specific traits help these animals and plants to survive.
3. Turn to "Copying Nature: Protect your Backpack" page. Using animal and plant traits, design a backpack that would keep squirrels out.

## Copying Nature: Scavenger Hunt

### Thinking Questions:

**Bees**: Be aware of the bees' yellow and black stripes; these stripes in the animal world mean that the creature can be aggressive and dangerous. Bee stingers are another warning sign.

**Sagebrush**: Gently rub the plant's leaves and have them smell their fingers. Ask them how it smells. If you were an animal, would you want to eat a lot of those leaves? Can you think of an animal that uses smell to keep others away? (Skunk)

**Roses**: Look at roses and ask "can you easily touch the stem?" Animals are less likely to eat roses because of the many thorns roses have.

**Birds**: When walking through the gardens, if you hear or see a bird, talk about it. Seize the birding moment! Depending on the interaction you have with the bird, ask about its coloring or the noises it makes. Was the bird making alarm calls? Was the bird camouflaged in its surroundings?



**Bee**



**Sagebrush**



**Bird**



**Squirrel**



**Tree**



**Rose**



**Cone**



**Butterfly**



**Cactus**

## **Copying Nature: Protect your Backpack**

Design a backpack to keep squirrels out! Think about the plants and animals you've seen today and how they protect themselves. For example, cacti are covered in thorns and monarch butterflies are bright colors to signal to predators

"stay away, I taste bad".



## Young & Old

**Suggested Gardens:** Rock Garden, Lawn outside May Museum

**Vocabulary:** Arboretum, dawn, gaggle

**Introduction:** Most plants and animals look a lot like their parents once they grow up, although young plants and animals don't always look like their parents. Do you think you look like your own parents? How about your siblings and other relatives? Why might that be? Have you ever planted a seed and watched it grow into a plant? The young seed looks nothing like its parent plant.

Some of the Arboretum's favorite living creatures are birds; they are seen all over Rancho San Rafael Park, including the Arboretum. Birds are a common sight all year long in the Arboretum! Where you find one bird, you'll usually find an entire group of them called a gaggle. Not all of the birds in a gaggle look alike, and it's fun to watch baby birds grow up to look like their parents. One of our favorite birds is the Canada goose; see if you can find some on your visit to the Arboretum. Bristlecone pines are some of the world's longest living organisms, and are one of Nevada's state trees. Here at the Arboretum we have a few Bristlecone pine trees growing in our gardens but our trees are not nearly as old as the ones we see in the wild.

**Activity: Young & Old: Humans, Geese, and the Bristle Cone Pine Tree**

1. Turn to the page titled Young & Old: Humans and follow the directions.
2. Visit the Rock Garden to observe the Bristlecone pine and lawns in front of the Arboretum to observe the Canada Goose.
3. Turn to the page titles young & Old: Canada Goose and Bristlecone Pine Tree, follow the directions.

## Young & Old

### Thinking Questions:

1. How are you similar to and different from your parents? (physical characteristics jobs, interests, abilities)
2. At the Rock Garden, you will find a young Bristlecone pine tree, how does it compare with the old Bristlecone below?
3. What ways are the trees the same, what ways are they different?
4. On the lawns in front of the Arboretum, you will notice geese everywhere!
5. Goose Facts: When you look at a group of geese during certain times of the year, you may notice that some of them look different from others. During the school year, (August - June) you may not notice these differences. Canada geese are born in the late spring/early summer, and if you see a group in the summer you may notice that some of them - the juveniles - are smaller and fuzzier. They're covered in **down** to protect them until they grow their adult feathers in late summer or fall. The geese you see on our trip today may all be mature adults! Think about what a young goose would look like. Can you draw a picture of it?

### Old Bristlecone Pine



## Young & Old: Humans

Think: How are you the same as your parents, older siblings, or grandparents?

Draw yourself and someone else in your family. What is different?

**You**

**Family member**



## Young & Old: Canada Goose and Bristlecone Pine Tree

Label the bristlecone pine and Canada goose from youngest to oldest, with 1 being the youngest and 3 being the oldest.

Canada Goose



Bristlecone Pine



## Next Generation Science Standards

### First Grade

1-LS1-1	Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow and meet their needs.
1-LS3-1	Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

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